

Claims

1. An electrochemical gas sensor comprising:
a working²⁰ electrode for exposure to a gas to be sensed;
a counter¹⁰ electrode having an outer periphery;
a reservoir for electrolyte;
wick means providing a path for electrolyte to pass from the reservoir, around a first part or parts of the outer periphery of the counter electrode to provide electrolytic continuity between the counter electrode and the working electrode; and
a gas diffusion means providing a path for gas to diffuse to or from a second part of the outer periphery of the counter electrode.
2. A sensor according to claim 1, wherein the working electrode and counter electrode are in a layered arrangement, with the working electrode and counter electrode being generally planar in form and stacked upon each other.
3. A sensor according to claim 2, wherein the counter electrode is sandwiched between two layers of generally planar wick portions.
4. A sensor according to claim 3, wherein the layers of wick portions are of larger extent than the counter electrode and are in contact with each other around only the first part or parts of the outer periphery of the counter electrode, with the second part or parts of the counter electrode outer periphery extending beyond the wick portions.
5. A sensor according to claim 3, wherein the working electrode and wick portions are generally circular or disc-like in configuration and coaxially stacked, and the counter electrode is non-circular in configuration.
6. A sensor according to claim 4, wherein the working electrode and wick portions are generally circular or disc-like in configuration and coaxially stacked, and the counter electrode is non-circular in configuration.

7. A sensor according to claim 1, further comprising a reference electrode.
8. A sensor according to claim 1, wherein the working electrode and counter electrode are supported on a material which is impermeable to electrolyte but permeable to gas.
9. A sensor according to claim 8, wherein the electrode support comprises microporous polytetrafluoroethylene.
10. A sensor according to claim 8, wherein the gas diffusion means comprises the support for the working electrode and the support for the counter electrode.
11. A sensor according to claim 10, wherein the support for the working electrode and the support for the counter electrode are in contact with each other.
12. A sensor according to claim 4, wherein the working electrode and the counter electrode are supported on a material which is impermeable to electrolyte but permeable to gas, with the support for the counter electrode adjacent the second part or parts of the outer periphery, extending beyond the wick portions, and contacting the support for the working electrode, the contacting electrode supports comprising the gas diffusion means.
13. An electrochemical gas sensor for measurement of a gaseous analyte, the sensor comprising a planar working electrode and a planar counter electrode with electrolyte therebetween, the working electrode and the counter electrode being in contact with the electrolyte, the sensor further comprising a gas diffusion means through which a reagent gas can diffuse to the counter electrode, the gas diffusion means partially or fully enclosing a volume around the working and counter electrodes and having an electrolyte supply means for supply of electrolyte from a reservoir, the counter electrode having an outer edge characterised in that part of the outer edge of the counter electrode is in contact with the gas diffusion means and part of the outer edge of the counter electrode is not in contact with the gas diffusion means, there being provided electrolyte transport means for

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electrolyte to pass around the part of the outer edge of the counter electrode where it is not in contact with the gas diffusion means.